

REMARKS

This Amendment After Final Rejection is submitted in response to the outstanding final Office Action, dated July 30, 2009. Claims 1 through 30 are presently pending in the above-identified patent application. In this response, Applicants propose to amend claims 1-3, 12, 15-17, 25, 27, and 30. No additional fee is due.

This amendment is submitted pursuant to 37 CFR §1.116 and should be entered. The Amendment places all of the pending claims, i.e., claims 1 through 30, in a form that is believed allowable, and, in any event, in a better form for appeal. It is believed that examination of the pending claims as amended, which are consistent with the previous record herein, will not place any substantial burden on the Examiner. In any case, a Request for Continued Examination is being submitted herewith.

In the Office Action, the Examiner rejected to claims 2, 3, 16, 17, 27 and 30 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner rejected claims 1, 4, 8-10, 12, 13, 15, 18, 22, 23, and 25-30 under 35 U.S.C. §102(e) as being anticipated by Perahia et al. (United States Patent Number 7,352,688), rejected claims 2, 5, 6, 11, 16, 19, 20, and 24 under 35 U.S.C. §103(a) as being unpatentable over Perahia et al. in view of Shattil (United States Patent Publication Number 2004/0141548), rejected claims 3, 7, 17, and 21 under 35 U.S.C. §103(a) as being unpatentable over Perahia et al. in view of Zhuang et al. (United States Patent Publication Number 2003/0123381), and rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over Perahia et al. in view of Jia et al. (United States Patent Number 7,103,325).

Claims 12 and 25 have been amended to correct typographical errors.

Section 112 Rejections

Claims 2, 3, 11, 16, 17, and 24 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner asserts that there is no clear and explicit antecedent basis for the term "said grouping."

Applicants note that the cited claims have been amended to correct the antecedent basis for the term "said grouping."

Thus, Applicants request that the section 112 rejections be withdrawn.

Independent Claims 1, 15, 27 and 30

Independent claims 1, 15, 27 and 30 were rejected under 35 U.S.C. §102(e) as being anticipated by Perahia et al. Regarding claim 1, the Examiner asserts that Perahia discloses wherein said subcarriers are grouped into a plurality of subcarrier groups (col. 3, lines 54-60; col. 4, lines 17-22; and col. 5, lines 16-27), and wherein each subcarrier group is transmitted on a different transmit antenna in a given time interval (col. 3, lines 54-60; col. 4, lines 17-22; and col. 5, lines 16-27). In the Response to Arguments section of the final Office Action, the Examiner apparently asserts that the each antenna has one group of 64 subcarriers.

Applicants note that independent claims 1 and 15 have been amended to require transmitting on each of said N transmit antennas a legacy preamble having at least one long training symbol, and at least one additional long training symbol, *each of said long training symbols to be transmitted on each of said N transmit antennas having two or more portions, each of said N transmit antennas having a set of a plurality of subcarriers, wherein each of said sets of said plurality of subcarriers are grouped into a plurality of subcarrier subgroups, wherein each subcarrier group comprises two or more adjacent subcarriers and wherein each portion of each long training symbol is transmitted on a different transmit antenna in a given time interval using a subcarrier subgroup*. Independent claims 27 and 30 have been amended to require receiving a legacy preamble having at least one long training symbol and an indication of a duration of a transmission of said data, and at least one additional long training symbols on each of said N transmit antennas, *each of said long training symbols to be transmitted on each of said N transmit antennas having two or more portions, each of said N transmit antennas having a set of a plurality of subcarriers, wherein each of said sets of said plurality of subcarriers are grouped into a plurality of subcarrier subgroups, wherein each of said subcarrier groups comprises two or more adjacent subcarriers and wherein each portion of each long training symbol is transmitted on a different transmit antenna in a given time interval using a subcarrier subgroup*. Support for these amendments can be found on page 6, line 29, to page 9, line 22, of the originally filed disclosure.

As the Examiner acknowledges, Perahia discloses “groups of 64 subcarrier values.” (Col. 5, lines 16-27; emphasis added.) Perahia only discloses single groups of 64 subcarriers. (Col. 3, lines 50-67.) Perahia does not disclose or suggest wherein each of N transmit antennas have a set of a plurality of subcarriers, and wherein each of the sets of the

plurality of subcarriers are grouped into a plurality of subcarrier subgroups. Perahia also does not disclose or suggest wherein each portion of each long training symbol is transmitted on a different transmit antenna in a given time interval using a subcarrier subgroup.

Thus, Perahia et al. do not disclose or suggest transmitting on each of said N transmit antennas a legacy preamble having at least one long training symbol, and at least one additional long training symbol, each of said long training symbols to be transmitted on each of said N transmit antennas having two or more portions, each of said N transmit antennas having a set of a plurality of subcarriers, wherein each of said sets of said plurality of subcarriers are grouped into a plurality of subcarrier subgroups, wherein each subcarrier group comprises two or more adjacent subcarriers and wherein each portion of each long training symbol is transmitted on a different transmit antenna in a given time interval using a subcarrier subgroup, as required by independent claims 1 and 15, as amended, and do not disclose or suggest receiving a legacy preamble having at least one long training symbol and an indication of a duration of a transmission of said data, and at least one additional long training symbols on each of said N transmit antennas, each of said long training symbols to be transmitted on each of said N transmit antennas having two or more portions, each of said N transmit antennas having a set of a plurality of subcarriers, wherein each of said sets of said plurality of subcarriers are grouped into a plurality of subcarrier subgroups, wherein each of said subcarrier groups comprises two or more adjacent subcarriers and wherein each portion of each long training symbol is transmitted on a different transmit antenna in a given time interval using a subcarrier subgroup, as required by independent claims 27 and 30, as amended.

Dependent Claims 2-14, 16-26 and 28-29

Claims 2-14, 16-26 and 28-29 are dependent on claims 1, 15, and 27, respectively, and are therefore patentably distinguished over Perahia et al., Shattil, Zhuang et al., and Jia et al., alone or in any combination, because of their dependency from amended independent claims 1, 15, and 27 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

Conclusion

All of the pending claims following entry of the amendments, i.e., claims 1-30, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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